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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/764,914	01/26/2004	Andreas Sibrai	DS03-005B	3363
7590 01/26/2006				
STEPHEN B. ACKERMAN 28 DAVIS AVENUE POUGHKEEPSIE, NY 12603			EXAMINER NGUYEN, HIEP	
			ART UNIT 2816	PAPER NUMBER

DATE MAILED: 01/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/764,914		SIBRAI ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Hiep Nguyen		2816	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 November 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23,26-28 and 30-49 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23,26-28 and 30-49 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION\*****Claim Objections***

Claim 10 is objected to because of the following informalities: the recitation “the circuit to provide the output reference level” lacks antecedent basis. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-23, 26-28 and 30-49 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Correction and/or clarification.

Regarding claim 1, the recitations “a circuit” on line 1, “a circuit” on line 11, “a translinear amplifier” on line 14, “a circuit” on line 18, “a circuit” on line 20 are indefinite because it is not clear as to they are the same circuit or they are distinct circuits. As understood by the Examiner, these circuits, labeled with different names, are basically the translinear amplifier that receives the tuning signal (Vtune) and the threshold voltage to control the switching device for varying the capacitance. The Applicant is requested to point out these recited distinct circuits in the drawing.

The recitations “a circuit to control the switching operation in a ramp-up/ramp-down manner ...” on line 11-12 and “translinear amplifiers to produce the ramp-up/ramp-down signal...” on lines 14-15 are indefinite because it is not clear as to they are the same or different circuits. Figure 9 of the present application shows that the only circuit that controls the switching operation is the circuit comprising the translinear amplifier (Tr-Amp1-Tr-Amp n). The recitation “a circuit to provide a signal, dependent on the tuning voltage, dedicated for the voltage controlled capacitance change, to the inputs of all of said capacitors switching stages” on lines

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20-22 are indefinite because it is confusing. It is not clear as to this circuit is the same or different than “a circuit” on line 11, “a translinear amplifier” on line 14 and “a circuit” on line 19. All these circuit perform a same function. They receive a tuning signal (V<sub>tune</sub>) and threshold voltages to control the switching operation. In other word, the different recited circuits are merely the translinear amplifiers. Clear explanation is required. The Applicant is required to point out these above circuit in the drawing.

Regarding claims 2-4, the recitation: “said switching device with steady transition phase” is indefinite because it is not clear what “steady transition phase” is meant by.

Regarding claim 17, the recitation “when said switching device is outside its steady transition area” on lines 3-4 is indefinite because it is not clear what “outside its steady transition area” is meant by. The recitations “a circuit” on line 12, “a translinear amplifiers” on line 16, “a circuit” on line 19 and “a circuit” on line 23 are indefinite because it is not clear as to they are the same or different. As understood by the examiner, these circuits are the same. There is only one circuit comprising translinear amplifiers that controls the switching operation. The Applicant is requested to point out these circuits in the drawing. The recitation “a circuit to drive said switching device to a fully on status when said switching device is outside said steady transition area on a lower resistance side, and implemented in combination with translinear amplifier” on lines 19-22 is indefinite because it is not clear what “outside said steady transition area on a higher resistance side” is meant by. The Applicant is requested to point out in the drawing this “a circuit”. Figure 9 of the present application shows that the only circuits that drive the switching devices (Sw-1-Sw-n) are translinear amplifiers (Tr-Amp 1-TR-Amp n). Besides the translinear amplifiers, no other driving circuits are seen. The recitation “a circuit to drive said switching device to a fully off status when said switching device is beyond said steady transition area on a higher resistance side, and implemented in combination with translinear amplifier” on lines 23-26 is indefinite because it is not clear what “beyond said steady transition area on a higher resistance side” is meant by. Figure 9 of the present

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application shows that the only circuits that drive the switching devices (Sw-1-Sw-n) are translinear amplifiers (Tr-Amp 1-TR-Amp n). Besides the translinear amplifiers, no other driving circuit is seen. The Applicant is requested to point out in the drawing this “a circuit”. The recitation “said switching device” on lines 3-4 lacks antecedent basis.

Regarding claim 18-21, the recitation “wherein said circuit to drive said switching device to a fully-on status, when said switching device is outside its desired steady transition area on the lower resistance side is provided by additional circuit elements, working as a signal-limiting function” in claim 18 is indefinite because it is not clear what “working as a signal-limiting function” is meant by. It is not clear what are the additional circuit elements in the drawing. Clear explanation is required. The recitations “outside its desired steady transition on the lower (higher) resistance side is provided by additional circuit elements, working as a signal limiting function” in claims 18-21 are indefinite because it is not clear what are the “additional circuit elements” that are added to the circuit and what is “working as signal limiting function”. The same rational is true for claims 44 and 45. Clear explanation is required. The Applicant is requested to show the disclosure or drawing that are related to these recitations. Note that circuit elements ADD-COMP 1-7 and ADD-COMP 2-7 are not seen in the drawings nor disclosed in the specification.

Regarding claim 23, the recitation “which gives one more degree of freedom to optimize operating parameters, like overlapping of capacitor switching operation and signal cut-off at the edges of the steady transition area.” is indefinite because it is not clear what is the “signal cut-off at the edges of the steady transition area.” is meant by and how to perform the “overlapping of capacitor switching operation”. Clear explanation is required.

Regarding claim 26, the recitation “a circuit to control...” on line 10 and “a translinear amplifier” on line 12 and “a circuit to provide a signal...” on line 20 is indefinite because it is misdescriptive. The “a circuit” on line 10 and the “translinear amplifier” line 12 control the switching stage. The “a circuit” on line 20 is also the

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translinear amplifier that receives a tuning signal (Vtune) and performs the switching function to control the capacitance change. In conclusion these three recited different circuits are seen to be the translinear amplifier that controls the switching operation to vary the capacitances. The Applicant is requested to explain the difference between these three circuits and to show them in the drawing. The recitation “the capacitor switching device” on lines 3-4 lacks antecedent basis.

Regarding claim 33, the recitation “a circuit” on line 9, “a translinear amplifier” on line 11, “a circuit” on line 14 and “a translinear amplifier” on line 20 are indefinite because they are confusing. These different circuits perform a same function that is controlling the switching devices. The Applicant is requested to point out these distinct circuits in the drawing.

Regarding claim 43, the recitation “a circuit” on lines 10, “a circuit to overdrive said switching device to a fully on status” on line 13, “a circuit overdrive said switching device to a fully off status ...” on line 13”, “a translinear amplifier” on line 17, “a circuit to provide a signal, dependent on the tuning voltage “ on lines 19-20 and “a translinear amplifier” on line 25 are indefinite because they are confusing. According to the language of the claim, they seem to be six different circuits. In fact, “these circuits” is merely the translinear amplifier that controls the switches for capacitance change. The Applicant is requested to point out in the drawing these six recited circuits. The recitation “lower resistance side” on line 14 and “higher resistance side on line 16 are indefinite because it is not clear what they are meant by. The recitation” linearly controlling the switching function..., when said switching device is in its steady transition area...” on lines 31-33 is indefinite because it is confusing. Once the switching device is in its **steady** transition area there will be **no control**. The recitation “said switching device” on lines 4-5 lacks antecedent basis.

Regarding claims 44 and 45, the recitations “when said switching device is outside its desired steady transition are on the lower resistance side uses additional circuit elements, working as a signal limiting function” in claim 44, “when said switching device is outside its steady transition are on the higher resistance side uses

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additional circuit elements, working as a signal limiting function” in claim 45 are indefinite because it is not clear what are the “additional circuit elements and how they work as “a signal limiting function”. The Applicant is requested to show the “additional circuit elements” in the drawing and to explain how they work as “a signal-limiting function.

Regarding claim 46, the recitation “wherein said signal-limiting operation to drive said switching device to a fully-on status, when said switching device is outside its steady transition area on the lower resistance is implemented within the translinear amplifier” is indefinite because it is confusing. It is not clear what is the “lower resistance is implemented within the translinear amplifier”. Clear explanation is required.

Regarding claim 47, the recitations “ a translinear amplifier” on line 7, “a circuit” on line 12, “ a translinear amplifier” on line 18 are indefinite because they are recited to be three different circuits, but in fact they all perform a same function, as a translinear amplifier, that is controlling the switching devices. The Applicant is requested to show these three distinct circuits in the drawing.

Claims 2-16, 22, 27, 28, 30-32, 34-42, 48 and 49 are indefinite because of the technical deficiencies of claims 1, 17, 26, 29, 33, 43 and 47.

### ***Response to Arguments***

According to the Applications 10/764920 and 10/676919, the Examiner found no information that can **explain** the 112. 2<sup>nd</sup> technical deficiencies of the claims. Further clear explanations are required. Figure 9 of the present application shows a circuit to control the capacitance comprising 5 circuit elements that are capacitors (Cap 1-Cap n), switches (Sw 1-Sw n), translinear amplifier (Tr-Amp 1-Tr-Amp n), and a circuit that generates the reference voltage (Vref). However, in the claims the Applicant recites many more circuits that are merely the redundancies of

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the translinear amplifier or that are not disclosed in the specification. This deficiency has been raised in the last Office Action.

***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hiep Nguyen whose telephone number is (571) 272-1752. The examiner can normally be reached on Monday to Friday from 7:30am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on (571) 272-1740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hiep Nguyen

01-19-06



TUANT. LAM  
PRIMARY EXAMINER